

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

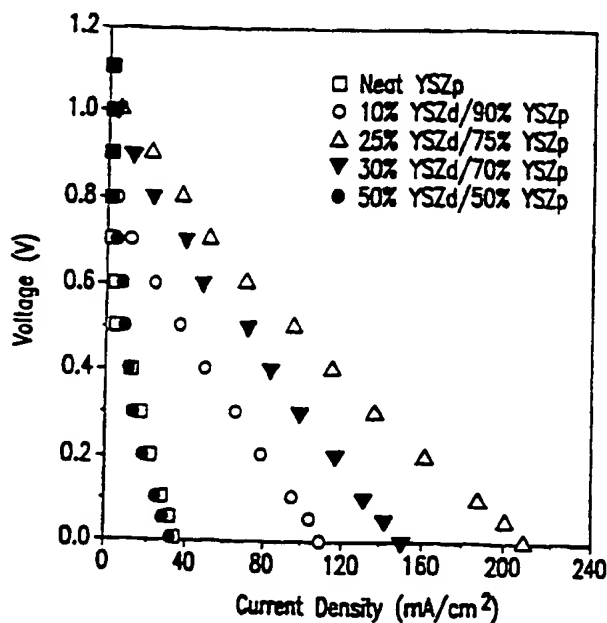
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H01M 8/12		A1	(11) International Publication Number: WO 00/52780
(21) International Application Number: PCT/US00/05735		(43) International Publication Date: 8 September 2000 (08.09.00)	
(22) International Filing Date: 3 March 2000 (03.03.00)		(74) Agents: FEJER, Mark, E. et al.; Pauley Petersen Kinne & Fejer, Suite 365, 2800 West Higgins Road, Hoffman Estates, IL 60195 (US).	
0) Priority Data: 09/261,324 3 March 1999 (03.03.99) US		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 09/261,324 (CIP) Filed on 3 March 1999 (03.03.99)		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
(71) Applicant (for all designated States except US): GAS RE- SEARCH INSTITUTE [US/US]; 8600 West Bryn Mawr Avenue, Chicago, IL 60631 (US).			
(72) Inventors; and (75) Inventors/Applicants (for US only): GORTE, Raymond, J. [US/US]; 512 Broad Acres Road, Narberth, PA 19072 (US). VOHS, John, M. [US/US]; 45 Sawgrass Lane, Newtown Square, PA 19073 (US). CRACIUN, Radu [US/US]; 3426 Bailey Creek Cove, South Collierville, TN 38109 (US).			

(54) Title: METHOD FOR SOLID OXIDE FUEL CELL ANODE PREPARATION

(57) Abstract

A method for preparation of an anode for a solid oxide fuel cell in which a plurality of zircon fibers are mixed with a yttria-stabilized zirconia (YSZ) powder, forming a fiber/powder mixture. The fiber/powder mixture is formed into a porous YSZ layer and calcined. The calcined porous YSZ layer is then impregnated with a metal-containing salt solution. Preferred metals are Cu and Ni. An anode and a method for manufacturing a fuel cell containing such anode is also disclosed. Such anode is particularly performant when the fuel cell is fed with dry hydrocarbons, in absence or low content of steam.

EXPRESS MAIL NO. EL 815 472 76805MAILED 31 AUGUST 2001YSZd = dense YSZ
YSZp = porous YSZ

□ $P_{max} = 5.1 \text{ mW/cm}^2$
 ○ $P_{max} = 19.4 \text{ mW/cm}^2$
 △ $P_{max} = 34.6 \text{ mW/cm}^2$
 ▼ $P_{max} = 4.0 \text{ mW/cm}^2$
 ● $P_{max} = 5.1 \text{ mW/cm}^2$

TO 222 323 150